Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/885,902	MASTERS, GRAHAM S.
	Examiner	Art Unit	
	Kuen S Lu	2177	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 June 2001</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-20</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a)☐ All b)☐ Some * c)☐ None of:
  1.☐ Certified copies of the priority documents have been received.
  2.☐ Certified copies of the priority documents have been received in Application No. _____.
  3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>06/20/2001</u>.
4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Specification

Applicant is reminded of the proper language and format for an abstract of the

disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

1. In this case, the abstract of the disclosure is objected to because the phrase "The

present invention is directed to" which can be implied and should be avoided.

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 6, 13-15 and 17-20 are rejected are rejected under U.S.C. 103(a) as

being unpatentable over Talib et al. (U.S. Publication 2001/0049677, hereafter "Talib")

and in view of Subramaniam et al. (U.S. Publication 2003/0088545, hereafter

"Subramaniam").

As per claims 1 and 17, Talib teaches "searching for documents identified in a database" (See Page 4, [0041]-[0042] wherein Talib's **query and search** teaches Applicant's claim language above).

Talib further teaches the following:

"establishing a first search criterion associated with a keyword match between a keyword entry and said identified documents" (See Fig. 10, steps 1-4 and Page 10, [0122] wherein Talib's **first search criterion is based on keyword to identify a plurality of documents** teaches Applicant's claim language above);

"establishing at least one additional search criterion based on a document attribute of said identified documents" (See Fig. 10, steps 7-8 and Page 10, [0123] wherein Talib's **an additional search criterion is based on document attribute, for example, "all location" and "boating", to identify a subset of documents retrieved by the search of keyword match** teaches Applicant's claim language above); and

"determining a criterion matching score for said identified documents for each of said established search criteria" (See Page 14, [0175]-[0176] wherein Talib's **each document is scored in response to search query** teaches Applicant's claim language above).

Talib does not specifically teach "associating a scaling factor with each of said established search criteria".

However, Subraminiam teaches "associating a scaling factor with each of said established search criteria" (See at Fig. 20, element 2020 and Page 7, [0124] wherein Subraminiam's **scaling or adjusting the object of a search definition object by a factor, an numerical value** teaches Applicant's claim language above).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine Subramaniam's reference with Talib's by normalizing the search criteria because both references are devoted to efficient search and the combination of the references would have been able to correlate the frequency of an expression appears in a document to the relevance of that document to the expression. Further, a search engine would have been able to yield a greater accuracy in performing a search of documents for only those related to a given search expression.

Talib further teaches the following:

"calculating an overall matching score for selected ones of said identified documents from said determined criterion matching scores and said associated scaling factors" (See Page 14, [0175] wherein Talib's **a numeric value is scored to every document retrieved** teaches Applicant's claim language above); and

"ordering said selected ones of said identified documents based upon said calculated overall matching scores" (See Page 1, [0012] wherein Talib's **search engine lists the searched documents in descending order of each keyword appearance frequency** teaches Applicant's claim language above).

As per claim 2, Talib teaches "database is accessible from a web site and said identified documents are web pages" (See Page 6, [0079], Page 9, [0115] and Page 12, [0153] wherein Talib's **web site and database are implemented for accessing web pages** teaches Applicant's claim language above).

As per claim 3, Talib teaches "establishing at least one additional search criterion comprises the step of: establishing a search criterion based on a creation date of said identified documents" (See Fig. 10, steps 7-8, Page 10, [0123] and Page 5, [0052] wherein Talib's **an additional search criterion is based on document attribute (for example, 'all location' and 'boating') to identify a subset of documents retrieved by the search of keyword match,** and **"date created" is used for constructing a required searching parameter** teaches Applicant's claim language above).

As per claim 6, Subramaniam teaches "establishing at least one additional search criterion comprises the step of: adjusting a scaling factor for at least one of said established search criteria" (See Fig. 20, element 2020 and Page 7, [0124] wherein Subramaniam's **scaling or adjusting the object of a search definition object by a factor, an numerical value** teaches Applicant's claim language above).

As per claim 13, Talib teaches the following "an interface for receiving search criteria defining at least one keyword query and at least one document attribute query" (See Fig. 10, steps 1-4 and 7-8, and Page 10, [0122]-[0123] wherein Talib's **the first search criterion is based on keyword to identify a plurality of documents and an additional search criterion is based on document attribute (for example, "all location" and "boating") to identify a subset of documents retrieved by the search of keyword match** teaches Applicant's claim language above).

Talib does not specifically teach "an adjustment setting for adjusting a weighting of a search criterion of said search criteria defining said at least one document attribute query".

However, Subraminiam teaches "an adjustment setting for adjusting a weighting of a search criterion of said search criteria defining said at least one document attribute query" (See Fig. 20, element 2020 and Page 7, [0124] wherein Subraminiam's **scaling or adjusting the object of a search definition object by a factor, an numerical value** teaches Applicant's claim language above).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine Subramaniam's reference with Talib's by normalizing the search criteria because both references are devoted to efficient search and the combination of the references would have been able to correlate the frequency of an expression appears in a document to the relevance of that document to the expression. Further, a search engine would have been able to yield a greater accuracy in performing a search of documents for only those related to a given search expression.

As per claim 14, Talib teaches "search engine operates in conjunction with a world wide web browser and said documents are web pages" (See Page 6, [0079], Page 9, [0115] and Page 12, [0153] wherein Talib's **web site and database are implemented for accessing web pages** teaches Applicant's claim language above).

As per claim 15, Talib teaches "a document rank calculator for determining a rank of a document of said documents based on said adjusted weighting of said search criterion defining said at least one document attribute query" (See Page 14, [0175] and Page 1, [0012] wherein Talib's **a numeric value is scored to every document retrieved,**

and search engine lists the searched documents in descending order of each keyword appearance frequency teaches Applicant's claim language above).

As per claim 18, Talib teaches "a search query directed to a creation date of a web page of said web pages" (See Page 6, [0079], Page 9, [0115] and Page 12, [0153] and Fig. 10, steps 7-8 and Page 10, [0123] wherein Talib's **web site and database are implemented for accessing web pages and an additional search criterion is based on document attribute (for example, 'all location' and 'boating') to identify a subset of documents retrieved by the search of keyword match, and further 'date created' is used for constructing a required searching parameter** teaches Applicant's claim language above).

As per claim 19, Subramaniam further teaches "generating a scaling factor proportional to said adjusted importance of said at least one document attribute search query" (See Fig. 20, element 2020 and Page 7, [0124] wherein Subramaniam's **scaling or adjusting the object of a search definition object by a factor, an numerical value** teaches Applicant's claim language above).

As per claim 20, Subramaniam further teaches "a user-data input mechanism" (See Fig. 3 wherein Subramaniam's **the thin client is the user-data input mechanism** teaches Applicant's claim language above).

3. Claim 4 is rejected are rejected under U.S.C. 103(a) as being unpatentable over Talib et al. (U.S. Publication 2001/0049677, hereafter "Talib") in view of Subramaniam et al. (U.S. Publication 2003/0088545, hereafter "Subramaniam"), as applied to claims 1-2, and further in view of Weiss et al. (U.S. Publication 2002/0138487, hereafter "Weiss").

As per claim 4, the combined Subramaniam-Talib teaches accessing database from a web site and identifying web pages (See Page 6, [0079], Page 9, [0115] and Page 12, [0153] wherein Talib's **web site and database are implemented for accessing web pages** teaches Applicant's claim language).

The combined Subramaniam-Talib reference does not specifically teach "establishing at least one additional search criterion comprises the step of: establishing a search criterion based on a number of incoming links to said identified documents".

However, Weiss teaches "establishing a search criterion based on a number of incoming links to said identified documents" (See Page 1, [0016] and Page 2, [0021] wherein Weiss' **Google search engine establishes number of incoming links to the web site as an additional search criterion for ranking the web sites which meet the a text-oriented search criterion** teaches Applicant's claim language above).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine Weiss' reference with Subramaniam and Talib references by establishing a search criterion based on a number of incoming links to said identified documents because by doing so the importance of a web site is a function of links coming from or pointing to a site can be established. Further, the importance of a web site can be established on the frequent used keywords and documents stored on the site.

4. Claim 5 is rejected are rejected under U.S.C. 103(a) as being unpatentable over Talib et al. (U.S. Publication 2001/0049677, hereafter "Talib") in view of Subramaniam

et al. (U.S. Publication 2003/0088545, hereafter "Subramaniam"), as applied to claims

1-2, and further in view of Barr et al. (U.S. Patent 5,742,816, hereafter "Barr").

As per claim 5, the combined Subramaniam-Talib teaches accessing database from

a web site and identifying web pages (See Page 6, [0079], Page 9, [0115] and Page 12,

[0153] wherein Talib's **web site and database are implemented for accessing web pages**

teaches Applicant's claim language).

The combined Subramaniam-Talib reference does not specifically teach "establishing

at least one additional search criterion comprises the step of: establishing a search

criterion based on a readability of said identified documents".

However, Barr teaches "establishing at least one additional search criterion

comprises the step of: establishing a search criterion based on a readability of said

identified documents" (See col. 31, lines 1-25 wherein Barr's **determining readability**

index of a document in the method for identifying documents and multi-media files

teaches Applicant's claim language above).

It would have been obvious to one having ordinary skill in the art at the time of the

applicant's invention was made to combine Barr's reference with Subramaniam and

Talib references by establishing a search criterion based on the readability indices for

searching documents because by doing so the new search criterion would have further

expanded Talib's system to search multi-media files for serving a much wider scope of

audience.

5. Claims 7-12 and 16 are rejected are rejected under U.S.C. 103(a) as being

unpatentable over Talib et al. (U.S. Publication 2001/0049677, hereafter "Talib") in view

of Subramaniam et al. (U.S. Publication 2003/0088545, hereafter "Subramaniam"), as applied to claims 1-2, 6, 13 and 17, and further in view of **Lin** et al. (U.S. Patent **6,675,159**, hereafter "**Lin**").

As per claim 7, the combined Subramaniam-Talib teaches scaling or adjusting the object of a search definition object by a factor, an numerical value (See Subramaniam: Fig. 20, element 2020 and Page 7, [0124]).

The combined Subramaniam-Talib reference does not specifically teach "modifying said adjusted scaling factor in at least two successive searching operations".

However, **Lin** teaches "modifying said adjusted scaling factor in at least two successive searching operations" (See col. 11, lines 30-49 wherein Lin's **using a comparison and ranking algorithms, which adjust 13 types of modifiers, can be invoked to adjust the weight of each factor, to determine the similarity between a query from user and a document, and rank each document based upon a set of criteria** teaches Applicant's claim language above).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine **Lin**'s reference with Subramaniam and Talib references by adjusting a set of weighting factors for documents retrieved because by doing so the combined reference would have enabled Talib's system to further discriminate the importance of the meaning and content of the text on the basis that all words in a text have varying degrees of importance, and further, the documents searched would have been further manipulated or parsed in order to yield a more accurate sub-set of result.

As per claims 8 and 9, Lin further teaches "manually adjusting said scaling factor" and "automatically adjusting said scaling factor" (See the Abstract and col. 11, lines 30-49 wherein Lin's **using a comparison and ranking algorithms automatically or manually, which adjust 13 types of modifiers, can be invoked to adjust the weight of each factor, to determine the similarity between a query from user and a document, and rank each document based upon a set of criteria** teaches Applicant's claim language above).

As per claim 10, Lin further teaches "selecting a numerical range for a criterion matching result of at least one of said established search criteria" (See col. 25, lines 6-29 wherein Lin's **a query topic specific classifier returns a probability values which suggests ranging between 0 and 100%** teaches Applicant's claim language above).

As per claim 11, Lin further teaches the following:

"mapping said criterion matching result into said selected numerical range" (See col. 25, lines 6-29 wherein Lin's **a probability value is mapped between 0 and 100%** teaches Applicant's claim language above);

"selecting an origin offset associated with said mapped criterion matching result" (See col. 25, lines 6-29 wherein Lin's **an offset to the probability values is 0%** teaches Applicant's claim language above); and

"adding said mapped criterion matching result and said selected origin offset" (See col. 25, lines 6-29 wherein Lin's **a query topic specific classifier returns a probability values 60, 30 and 10% which have been added with an offset value 0%** teaches Applicant's claim language above).

As per claim 12, an official notice is taken that the calculations of (1). Multiplying of a score and scaling factor, (2). squaring, (3). summing and (4). taking square root of the sum, were well known elementary statistical operations at the time the invention was made. It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine the calculations with Subramaniam and Talib's references by implementing the calculations into Talib's system because it is a formula for measuring the degree of match between searching criteria and document retrieved.

As per claim 16, Lin teaches "a normalization algorithm for mapping a naturally occurring numeric range of results returned for said search criterion defining said at least one document attribute query into a user-defined range" (See the Abstract and col. 11, lines 30-49 and col. 25, lines 6-29 wherelin Lin's **using a comparison and ranking algorithms automatically or manually, which adjust 13 types of modifiers, can be invoked to adjust the weight of each factor, to determine the similarity between a query from user and a document, and rank each document based upon a set of criteria,** and **a query topic specific classifier returns a probability values which suggests ranging between 0 and 100% and at col. 25, lines 6-29 where a probability value is mapped between 0 and 100%** teaches Applicant's claim language above).

Conclusions

6.   The prior art made of record

      A. U.S. Publication   2001/0049677

      B. U.S. Publication   2003/0088545

      C. U.S. Publication   2002/0138487

    D. U.S. Patent   5,742,816

    E. U.S. Patent   6,675,159

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

    F. U.S. Publication   2003/0078913

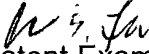   G. U.S. Patent No.   6,633,868

    H. U.S. Patent No.   6,449,598

    Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuen S Lu whose telephone number is 703-305-4894. The examiner can normally be reached on 8 AM to 5 PM, Monday through Friday.

If at tempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on 703-305-9790. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Kuen S. Lu

Patent Examiner

July 19, 2004

Alford Kindred

Primary Examiner

July 19, 2004